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10/736,498	12/17/2003	Manabu Yamazoe	00862.023369.	6251

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EXAMINER	
ABDI, AMARA	
ART UNIT	**PAPER NUMBER**
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,498	YAMAZOE, MANABU	
	Examiner	Art Unit	
	Amara Abdi	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/16/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response to the last office action, filed August 13, 2007 has been entered and made of record.

2. In view of the Applicant amendments, the objections to the claims 3,4-6, and 9 are expressly withdrawn.

3. Applicant's arguments with respect to claims 1-9 and have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-3,4-6 and 7-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(a) In claims 1 and 7, "a value corresponding to a first difference value, which is equal to or less that a second color difference value of the two color difference values" is introduced in claims 1 and 7, and it is not described in the specification. Therefore, it is considered as a new matter because it doesn't have any support from the specification.

(b) In claim 4, "by an input value being equal or less that other input value of two arbitrary input values" is introduced in claim 4, and it is not described in the specification. Therefore, it is considered as a new matter because it doesn't have any support from the specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shu (US 5,517,335) in view of Kaye et al. (US 5,089,882) and Hongu (US 6,757,427).

(1) Regarding claims 1 and 7:

Shu discloses a color conversion method and an apparatus (column 1, line 44) of inputting at least two color difference values and obtaining a corresponding saturation value (column 1, line 44-46), comprising steps of:

creating a main lookup table which stores saturation value for the color difference values (column 6, line 32-37; and line 37-41; and column 7, line 55-57);

determining the address of the main lookup table in correspondence with two

color difference values on the basis a difference between the two color difference values (column 7, line 45-47), (the address of the main lookup table is read as the values stored in the lookup table); and

obtaining a saturation value corresponding to the two color difference values from the address determined in said determining step (column 6, line 53-55); and accessing the main lookup table (column 10, line 19-20).

Shu does not explicitly mention the sub-lookup table for obtaining a value corresponding to a first color difference value, which is equal to or less that a second color difference value of the two color difference values.

(A) Obviousness in view of Kaye et al.

Kaye et al., in analogous environment, teaches a processing for color video signals, where using a look up table for obtaining a value corresponding to the first color difference value (column 5, line 51-55), (the sub-lookup table is read as the same concept as the look up table).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of kaye et al., where obtaining a value corresponding to the first color difference value by using a lookup table, in the system of Shu in order to maintain the composite signal within the pre-defined limits while still insuring that any processing of the color video signals is carried through with a minimum of change to the luminance, hue of saturation of the resulting composite signal (column 1, line 54-62).

(B) Obviousness in view of Hongu:

Hongu, in analogous environment, teaches an edge enhancement preprocessing with image region determining function, where the color difference is equal to that a second color difference value of the two color difference values (column 6, line 62-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Hongu, where the color difference is equal to that a second color difference value of the two color difference values, in the system of Shu in order to correct the middle color in the boundary portion between a character region and photograph region (column 6, line 3-6).

(2) Regarding claims 2 and 8:

Shu further discloses the method and an apparatus (column 1, line 44), where the main lookup table has a smaller number of entries than the number of all possible combinations of the two color difference values by utilizing symmetry of the saturation value for the color difference values (column 7, line 45-51), (it is read that by the use of curve, the lookup table will have a smaller number of entries than the number of all possible combinations of the two color difference values, since the curve is symmetric and representing the saturation value and approaching zero in either extreme).

(3) Regarding claims 3 and 9:

Shu discloses a color conversion method and an apparatus (column 1, line 44).

Shu does not explicitly mention the storing of an address in lookup table of the entry in which the to color difference values are the same.

kaye et al., in analogous environment, teaches a processing for color video signals, where storing the address in lookup table of the entry (column 10, line 34-37) in which the tow color difference values are the same (column 5, line 57-59), (the addressing by unique pairs of values corresponding to the incoming R-Y and B-Y is read as the same concept as the tow color difference values are the same).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of kaye et al., where storing the address of the entries in lookup table, in the system of Shu in order to maintain the composite signal within the pre-defined limits while still insuring that any processing of the color video signals is carried through with a minimum of change to the luminance, hue of saturation of the resulting composite signal (column 1, line 54-62).

(4) Regarding claim 4:

Shu discloses a lookup table for obtaining an output value defined for an input value (column 6, line 12-13), comprising:

a main lookup table adapted to, when a definition of an output value has or is regarded to have symmetry (column 7, line 45-51) for a plurality of input values (column 8, line 36), (it is read that the plurality of pixels have a plurality of input values). Wherein the address of the main lookup table is determined (column 7, line 45-47), (the address of the main lookup table is read as the values stored in the lookup table).

Shu does not explicitly mention that the sub-lookup table is adapted to store an address of an entry in which a first input value and the second input value of the plurality of input values are the same. Wherein the input value being equal or less than

other input value of two arbitrary input values and a difference between the two input values, in correspondence with the two arbitrary input values.

(A) Obviousness in view of kaye et al.

kaye et al., in analogous environment, teaches a processing for color video signals, where sub-lookup table is adapted to store an address of an entry (column 10, line 34-37) in which a first input value and the second input value of the plurality of input values are the same (column 5, line 57-59), (the addressing by unique pairs of values corresponding to the incoming R-Y and B-Y is read as the same concept as the tow color difference values are the same).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of kaye et al., where storing the address of the entries in lookup table, in the system of Shu in order to maintain the composite signal within the pre-defined limits while still insuring that any processing of the color video signals is carried through with a minimum of change to the luminance, hue of saturation of the resulting composite signal (column 1, line 54-62).

(B) Obviousness in view of Hongu:

Hongu, in analogous environment, teaches an edge enhancement preprocessing with image region determining function, where the color difference being equal to that a second color difference value of the two color difference values (column 6, line 62-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Hongu, where the color difference is equal to that a second color difference value of the two color difference values, in the system of

Shu in order to correct the middle color in the boundary portion between a character region and photograph region (column 6, line 3-6).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shu, Kaye et al., and Hongu, as applied to claim 4 above, and further in view of Metcalfe (US 5,809,181).

Shu, Kaye et al., and Hongu disclose all the subject matter as described in claim 4 above.

Shu, Kaye et al., and Hongu do not explicitly mention the system, where the specific condition includes a color space.

Metcalfe, in analogous environment, teaches a color conversion apparatus, where the color conversion is loaded with appropriate output color space primary color lookup table (column 6, line 11-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Metcalfe, where lookup table includes a color space, in the system of Shu in order to minimize the storage requirements. For example, assuming that each primary color has 256 (8-bits) possible levels of input, a lookup table for every combination of R, G, and B would require 16 Mbytes (256x256x256) for each of the CMY and K pass. A large lookup table can be simulated by interpolating between eight points forming a cube around the R, G, B position derived from the non-uniform color space conversion interval (column 6, line 22-28).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shu, Kaye et al., and Hongu, and Metcalfe, as applied to claim 5 above, and further in view of Suzuki (US 6,650,336).

Shu, Kaye et al., and Hongu, and Metcalfe disclose all the subject matter as described in claim 5 above.

Shu, Kaye et al., and Hongu, and Metcalfe do not explicitly mention the system, where the output value includes saturation in a color space determined in advance.

Suzuki, in analogous environment, teaches a color conversion device and a method capable of improving color reproduction, where the output value includes saturation in color space, which is determined based on three-dimensional lookup table (column 3, line 34-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Suzuki, where the output value includes saturation value in color space, in the system of Shu in order to provide a color conversion device determining the saturation level of input image data which is in term referred to change an interpolation method to another to improve color reproduction (column 3, line 50-53).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information:

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi
10/16/07

JINGGE WU
SUPERVISORY PATENT EXAMINER